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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/684,472

Filing Date: October 06, 2000

Appellant(s): KRISHNAMOORTHY ET AL.

Suban Krishnamoorthy
Christopher Stroberger
Steven Peters
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 6/6/06 appealing from the Office action mailed 11/16/05.

(1) *Real Party in Interest*

A statement identifying by name the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) *Status of Claims*

The statement of the status of claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Claimed Subject Matter*

The summary of claimed subject matter contained in the brief is correct.

(6) *Grounds of Rejection to be Reviewed on Appeal*

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,654,801 Mann et al 11-2003

(9) *Grounds of Rejection*

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections – 35 USC 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
2. Claims 18-28, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mann.
3. Mann was cited in the last office action.

4. As per claim 18, Mann taught the invention substantially as claimed comprising:
 - an integrated management agent (e.g. 16, 26 and 24, fig. 1, the combination of Network Control Console, Point of Presence and Broker performed the function of an integrated management agent as claimed) capable of managing components of a network (col. 4, lines 40-53), the integrated management agent comprising a device agent;
 - the device agent (e.g. 26, fig. 1, Point of Presence) comprising an object-based device handler sublayer and a protocol-dependent device handler sublayer (e.g. node handling network management interfaces) (col. 6, lines 13-41), the protocol-dependent device handler sublayer comprising multiple modules (36-42, fig. 1), each respective module of the multiple modules adapted to support a respective device-type-specific protocol (e.g. 40, fig. 1, Dynamic Host Configuration Protocol service) (col. 6, lines 31-41); and
 - wherein a particular module of the multiple modules that is adapted to support a particular device-type-specific protocol may be installed to or uninstalled from the protocol-dependent device handler sublayer independently of other modules of the multiple modules while the integrated management agent is running (col. 12, lines 13-47)

5. Mann did not specifically teach managing components of a storage area network. However, Mann taught different implementations may be used and may include other types of operating systems, computing platforms, computer programs, firmware and/or general purpose machines (col. 4, lines 30-33). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to include components of a storage area network because by doing so would increase the field of use in their system.

6. As per claim 19, Mann taught the invention substantially as claimed in claim 18 above. Mann further taught wherein the integrated management agent further comprises an object manager that represents the components of the SAN as objects, and wherein the object-based device handler sublayer provides an interface between the object manager and the protocol-dependent device handler sublayer to permit an object level interface to the devices (col. 5, lines 24-40).

7. As per claim 20, Mann taught the invention substantially as claimed in claim 18 above. Mann further taught wherein the integrated management agent further comprises a dynamic list of device-type-specific protocols that it is capable of using, wherein each device-type-specific protocol is associated with a list of objects and methods, and wherein a given list of objects and methods is added to the dynamic list when a given module of the multiple modules supporting a given device-type-specific protocol is installed to the protocol-dependent device handler sublayer (col. 6, lines 24-30; col. 10, lines 67-col. 11, lines 26).

8. As per claim 21, Mann taught the invention substantially as claimed in claim 19 above. Mann further taught wherein the integrated management agent further comprises a consistent user interface module coupled to the object manager, wherein at least one device type-specific module is installed (col. 6, lines 24-30), and wherein the at least one device type-specific module further comprises a device handler for coupling a storage system to the integrated management agent (col. 11, lines 14-22).

9. As per claim 22, Mann taught the invention substantially as claimed in claim 21 above. Mann further taught wherein at least one device type-specific module further comprises code for supporting a plurality of protocols to communicate with a plurality of devices (col. 6, lines 49-54).

10. As per claim 23, Mann taught the invention substantially as claimed in claim 22 above. Mann further taught wherein the management system further comprises a distributed error and status handler capable of handling error and status information from at least one device (col. 11, lines 39-col. 12, lines 12).

11. As per claim 24, Mann taught the invention substantially as claimed in claim 23 above. Mann further taught wherein at least a first level of the distributed error and status handler executes on the at least one device (col. 9, lines 54-65).

12. As per claims 25 and 26, Mann taught the invention substantially as claimed in claim 24 above. Mann further taught wherein the at least one machine selected from the group comprising of a host and an appliance, incorporates a second level of error and status handler (col. 9, lines 6-35).

13. As per claim 27, Mann taught the invention substantially as claimed in claim 25 above. Mann further taught wherein the centralized global error and status handler level executes upon a

fault tolerant system in a storage are network management environment (col. 9, lines 66-col. 10, lines 18).

14. As per claim 28, Mann taught the invention substantially as claimed in claim 18 above. Mann further taught wherein the integrated management agent further comprises a trap handler coupled to a notification module to receive traps from at least one SAN device and send notification to at least one system administrator (col. 8, lines 56-col. 9, lines 12).

15. As per claim 30, Mann taught the invention substantially as claimed in claim 18 above. Mann further taught wherein the integrated management system is capable of being configured with a configuration utility (col. 9, lines 66-col. 10, lines 18).

16. As per claim 31, Mann taught the invention substantially as claimed in claim 18 above. Mann further taught wherein the object manager further comprises a dynamic list indicating device types the integrated management agent is capable of handling, wherein installing device type-specific modules causes addition of device types to the dynamic list, and wherein addition of device types to the dynamic list does not require shutting down the integrated management agent (col. 10, lines 67-col. 11, lines 26).

17. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mann in view of Singh et al, U.S. Patent 5,758,083 (hereinafter Singh).

18. Singh was cited in the last office action.

19. As per claim 29, Mann did not teach sending traps to support at least a second management system. Singh taught wherein the integrated management agent further capable of sending traps to support at least a second management system (col. 2, lines 8-25; col. 21, lines 40-50).

20. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Mann and Singh because Singh's method of sending traps to a second management system would increase the user alertness of Mann's system by allowing user to take corrective action to improve network performance by taking into consideration important network information about remote networks (col. 4, lines 58-62)

21. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mann in view of Tawil, U.S. Patent 6,421,723 (hereinafter Tawil).

22. Tawil was cited in the last office action.

23. As per claim 32, Mann taught the invention substantially as claimed in claim 31 above. Mann did not teach the network interconnection system comprises at least one fibre channel switch. Tawil taught wherein the network interconnection system further comprises at least one

fibre channel switch, and wherein a device type specific module is type specific to the at least one fibre channel switch (col. 3, lines 50-col. 4, lines 3).

24. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Mann and Tawil because Tawil's method of including a fibre channel switch would enhance Mann's system by using fibre channel technology to allow data and network protocols to coexist on the same physical media (col. 4, lines 12-19).

25. Claims 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mann in view of Chrabaszcz, U.S. Patent 6,212,585 (hereinafter Chrabaszcz).

26. Chrabaszcz was cited in the last office action.

27. As per claim 33, Mann taught the invention substantially as claimed in claim 18 above. Mann did not teach a firmware download module. Chrabaszcz taught wherein the integrated management system further comprises a firmware download module with unified user interface hiding device specific firmware download process and characteristics from the administrator (col. 10, lines 49-col. 11, lines 15).

28. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Mann and Chrabaszcz because Chrabaszcz's

method of automatically downloading the firmware for a device would increase the efficiency of Mann's system by avoiding the time consuming and tedious process of manually loading an appropriate driver for the device (col. 3, lines 15-27).

29. As per claims 34 and 35, Mann taught the invention substantially as claimed in claim 18 above. Mann did not teach the different element of the conglomerate method. Chrabaszcz taught wherein the integrated management agent is capable of discovering devices and agents in the SAN and their interconnection by applying a conglomerate method comprising at least two elements selected from the group comprising host and device agent broadcasting, multicasting device identity, collecting addresses from network traffic, collecting information from a name server, scanning a set of ranges of address supplied in configuration information, and collecting information about devices from configuration information (col. 9, lines 49-col. 10, lines 49).

30. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Mann and Chrabaszcz because Chrabaszcz's method of discovering devices and agents in the SAN and their interconnection would increase the efficiency of Mann's system by avoiding the time consuming and tedious process of manually configuring new devices added to the integrated management agent.

31. Because Applicants have failed to challenge any of the Examiner's "Official Notices" of claim 18 stated in the previous office action in a proper and reasonably manner, they are now considered as admitted prior art. See MPEP 2144.03

(10) Response to Argument

The examiner summarizes the various points raised by the appellant and addresses replies individually.

Appellant argued that:

- (1) Mann fails to teach the device agent comprising an object-based device handler sublayer and a protocol-dependent device handler sublayer, the protocol-dependent device handler sublayer comprising multiple modules, each respective module of the multiple modules adapted to support a respective device-type-specific protocol, as recited in claim 18.
- (2) Mann does not teach a device-type specific protocol.
- (3) Mann fails to teach installing or uninstalling protocol specific modules from a protocol-dependent device handler sublayer as recited in claim 18.
- (4) Mann fails to teach a device-type –specific protocol is associated with a list of objects and methods, and wherein a given list of objects and methods is added to the dynamic list when a given module of the multiple modules supporting a given device-type-specific protocol is installed to the protocol-dependent device handler sublayer.
- (5) Mann fails to teach an integrated management agent which comprises a consistent user interface module coupled to the object manager, wherein at least one device type-specific module is installed, and wherein the at least one device type-specific module further comprises a device handler for coupling a storage system to the integrated management agent.

In reply to argument (1): Mann taught more than one node handling network management interfaces for managing all the services and interfaces housed at the numerous Point of Presences (PoPs) in the network (col. 6, lines 24-30). Mann further taught the node handling network management interface comprises service components (36-42, fig. 1; col. 6, lines 31-41)(i.e. multiple modules), wherein each respective service component support a respective device-type-specific protocol (i.e. DHCP service supports dynamic host configuration protocol that is specific to the PoP). This means the node handling network management interfaces have the same structure and performs the same function as an object-based device handler sublayer and a protocol-dependent device handler sublayer because the node handling network management interfaces (i.e. protocol-dependent device handler sublayer) comprising multiple service components (i.e. multiple modules), wherein each respective service component (i.e. module) of the multiple service component adapted to support a respective device-type-specific protocol. For example, DHCP service (40, fig. 1) is adapted to support dynamic host configuration protocol. (Note that applicant was suggested to further define the feature of an object-based device handler sublayer in claim 18 to distinguish the invention of Mann.)

In reply to argument (2): Mann taught protocols (modules) that are supported by a device (Point of Presence(PoP)) (36-42, fig. 1) (AAA, DNS, DHCP, etc.). This means the protocols are specific to the device (PoP). Similarly, if two devices (e.g., two PoP) support the same type of protocols (modules), they are specific to both devices (same type of devices). Hence, Mann taught device-type specific protocols (protocols that are specific to the PoP).

In reply to argument (3), Mann taught adding or integrating (installing) a new service at one of the Point of Presences (col. 10, lines 19-39; col. 12, lines 13-22). This means that the new service component (i.e. protocol specific module) must be installed to the node handling network management interface (col. 6, lines 24-48) (i.e. protocol-dependent device handler sublayer).

In reply to argument (4), Mann taught when a service adapter supporting a new service (device-type-specific protocol as described in reply to argument 2) is added (installed) to a Point of Presence (col. 10, line 67-col. 11, line 11) (node handling management interface, see col. 6, lines 25-30), a list of objects and methods is added to the list of services at a particular Point of Presence at the database. The objects include timestamp, GUID, server name, Point of Presence where the service is located and the methods include information accessing performance and reliability of the services (col. 10, line 11-col. 11, line 26; col. 4, lines 57-62).

In reply to argument (4), Mann taught a consistent user interface module such as an Authentication, Authorization and Accounting (AAA) module (module for interfacing with user in order to perform user authorization (e.g. user login)) coupled to an Object Broker (object manager) (48, fig. 2), wherein at least one device type-specific module is installed (AAA, DNS, DHCP, etc. as described in reply to argument (2) are installed), and wherein the at least one device type-specific module comprises device handler (service adapter) for connecting to a storage system (database) (service adapter (32, fig. 1) in communication with DB (18, fig. 1)) (fig. 1; col. 11, lines 11-22). In addition, Mann also taught NCC application or interface with

control adapter (consistent user interface module) (74, fig. 3) allow administrator (user) to send command to service adapter associated with the services (device type-specific protocols such as AAA, DNS, DHCP, etc. as described in reply to argument (2)) (col. 9, lines 22-27). As described above, each service adapter is coupled to the Object Broker (object manager). This means that NCC application or interface (consistent user interface module) (74, fig. 3) is also connected to the Object Broker via the service adapter (i.e. since service adapter is coupled to the object broker, and NCC application or interface is coupled to said service adapter, therefore, the NCC application or interface is coupled to said object broker).

(11) *Related Proceeding(s) Appendix*

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

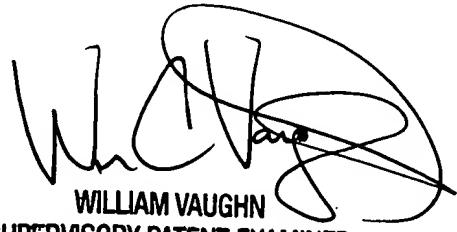
(12) *Conclusion*

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,
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August 15, 2006


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